

What Is Claimed Is

1. A fuel injector (1), in particular for the direct injection of fuel into the combustion chamber of an internal combustion engine, having a valve needle (4), which is positioned in a nozzle body (3), is actuatable by an actuator (7) and acted upon by a restoring spring (9) in such a way that a valve-closure member (5), which is in operative connection to the valve needle (4) and faces the combustion chamber, is kept in sealing contact with a valve-seat surface (6) in the non-actuated state of the actuator (7), wherein a surface of the fuel injector (1) has a concave design in a transition region (13) between the nozzle body (3) and the valve-closure member (5).
2. The fuel injector as recited in Claim 1, wherein the transition region (13) is formed by two mutually abutting surfaces (14, 15) of the nozzle body (3) and the valve-closure member (5).
3. The fuel injector as recited in Claim 2, wherein an angle ( $\alpha$ ) between the surfaces (14, 15) is smaller than  $180^\circ$ .
4. The fuel injector as recited in one of the Claims 1 through 3, wherein one edge (16, 17) in each case is formed on the nozzle body (3) and the valve-closure member (5).
5. The fuel injector as recited in Claim 4, wherein the edges (16, 17) have edge angles ( $\gamma$ ), which each amount to at least  $90^\circ$ .
6. The fuel injector as recited in Claim 5, wherein the sum of the edge angles ( $\gamma$ ) together amounts to at least  $180^\circ$ .

7. The fuel injector as recited in one of the Claims 1 through 6, wherein the transition region (13) is recessed relative to a surface plane (18).